

## A Partnership With the Sun

# Harnessing Desert Energy

is Davis

The sun breaks over the crest of the thousand-foot high Navajo sandstone cliffs that surround Dangling Rope. Summer's heat was stifling before dawn. Now the oven is reignited for another day, as the sun beats relentlessly on the blackbrush, Mormon Tea, beaver cactus, lizards, people, and photovoltaic panels.

beads of sweat roll down our faces as we leave marina and trudge up the long, steep access to the top of the mesa. The tableland is dropped by the towering orange cliffs and noted by the crystal clear water of Lake Powell. A hundred degree heat and merciless sun are instant reminders of why this desert environment is an ideal site for our project.

group includes **Jeff Burks**, the director of the Office of Energy and Resource Planning, **Tim Reed**, an energy specialist in Burks' office, **Vic Knox**, the chief of Facilities Management at Glen Canyon National Recreation Area.

Dangling Rope Marina sits in one of Lake Powell's many bays, near Rainbow Bridge National Monument. It can only be reached by boat, and is the sole location in the 90 miles between Wahweap and Bullfrog Marinas where boaters can get gas and picnic supplies, and find National Park Service rations and services.

Lake Powell, formed by the Bureau of Reclamation's Glen Canyon Dam, is one of the world's most spectacular reservoirs—the centerpiece of Glen Canyon National Recreation Area, which encompasses 1.25 million acres of the Colorado Plateau. The area also has one of the most abundant supplies of sunshine in the United States with 300+ sunny days each year.



Knox, left, and Denis Davis, right, review plans and specifications for the Dangling Rope project.

Dangling Rope over the past four and a half years, working to make the photovoltaic project a reality. But the roots of the initiative stretch back to the 1970s, when the floating Rainbow Marina in Lake Powell's Forbidding Canyon needed to be replaced.

Through a detailed planning process, the National Park Service selected Dangling Rope as the site for a new marina and support facilities, including NPS housing and utilities. The marina opened in the mid-1980s.

But electric power production at the site was expensive and environmentally hazardous. Diesel generators provided power at an average cost of 38 cents/kWh (kilowatt-hour)—about four to six times what a consumer on the nation's power grid pays.

All materials, supplies, and personnel had to be transported 40 miles by boat from Wahweap Marina near Page, Arizona. Thirty barge trips a year brought about 65,000 gallons of diesel fuel to Dangling Rope's generators. Minor diesel spills plagued the operation and the specter of a major spill gave me nightmares!

### In Search of a Solution

The generators also spewed air pollution and broke the splendid night-time silence of the area for employees living there. The situation begged for a better energy source, but tying into the nation's power grid was not an option because of the marina's splendid isolation.

Though determined to solve the problem, the Park Service needed alternative energy expertise and money. When I met Reed, I found the expertise and enthusiasm that were essential for a solution. He and others in Utah's Office of Energy and Resource Planning conducted an economic feasibility study that examined energy options. The results looked good for a photovoltaic system.

Their energy audit of the residential and marina operation identified several ways that NPS and our concessionaire, ARAMRAK Lake Powell Resorts and Marinas, could reduce electric consumption by more than 25 percent.

From the study and audit, we developed a proposal and cost estimates for a photovoltaic energy system with battery storage. It would be a hybrid system with propane-fueled generators as the backup. We had worked to interest partners in the general concept along the way, but now we had a specific proposal.

The NPS wanted to protect the area's environment, save money, and use sustainable energy technology. Utah's energy planning office promoted energy

efficiency and clean, reliable, and cost-effective alternative energy technology.

ARAMARK welcomed reduced electric bills and was committed to protecting Lake Powell's environment. Pacificorp/Utah Power wanted to explore alternative power production technology, get hard data on the system performance, and reap carbon credits for reduced air pollution emissions.

The U.S. Environmental Protection Agency wanted to reduce air pollution emissions, while the U.S. Department of Energy sought to reduce energy consumption at federal facilities around the country and demonstrate new energy technology.

Working together, this group was able to accomplish what none of the partners could do individually. They came together with unique talents and expertise, zeal for a common mission that achieved

## High Tech for the Third World

The Dangling Rope system should provide more than 80 percent of the marina's energy needs from photovoltaics. The scale and leading-edge technology of the project makes it a model that utility companies are likely to follow as they delve into Third World markets with small communities that cannot afford major hydroelectric or coal-powered energy projects.

The project is the second largest stand-alone photovoltaic system in the United States and the specially-designed power inverter is pushing the envelope of the current technology. An inverter is essential for translating and modulating between direct and alternating currents of electricity.

The inverter converts the direct current (DC) produced by the panels and stored in the batteries into alternating current (AC), which is carried on the area's electric distribution system. The backup generators also produce alternating current power.

The U.S. Department of Energy's Sandia National Laboratory designed the inverter for the Dangling Rope system. The Kenetech 250 kVA (kilovolt ampere) unit has 500 kVA surge capacity to handle the pumps and compressors (which use up to 40 horse power) needed in the area. Sandia also provided technical assistance, testing, and quality assurance. Demonstrating the inverter technology was a key attraction for Sandia and the Energy Department in supporting the project.

## A Stillness at Dangling Rope

Utah's Governor **Mike Leavitt** flipped the switch and there was silence—the silence of success—as diesel generators wound to a halt and 384 photovoltaic panels began converting the sun's rays into electric power.

The hush of friendly, clean technology was an appropriate way to mark the conclusion of a public-private partnership that over four years had brought a \$1.5 million solar energy system to Dangling Rope Marina and moved Glen Canyon National Recreation Area into the realm of sustainable power production.

Congressman **Jim Hansen**, Chairman of the House Subcommittee on National Parks, Forests, and Lands, Utah Governor **Mike Leavitt**, Glen Canyon Superintendent **Joe Alston**, and many other dignitaries boated to Dangling Rope Marina August 30 for the dedication ceremonies of the photovoltaic project.

Congressman Hansen spoke eloquently about his family's long term affection for Glen Canyon and Lake Powell, going back before Glen Canyon Dam was constructed.

"For all the units of the National Park System, I want technology that will enhance them," Hansen said. "The reason this country is ahead of the rest of the world is technology. Here today is an example of technology that blows your mind."

"Another beautiful thing about this particular project is the partnership," Hansen continued.

"This is such a great, great example of what partnership is all about. Thanks to each and every one of you for the part you have played in this. That's how America works."

Utah Governor **Mike Leavitt**, below, flips the switch to activate the system. Utah Congressman **Jim Hansen**, at right, congratulates state, federal, and private sector partners at the dedication ceremony. **Joe Alston**, below at right, is superintendent of Glen Canyon National Recreation Area.



Governor Leavitt also extolled the virtues of the state, federal, and private partnership that had made the project possible. "This is a victory for cooperation. It is a victory for environmental balance. And when I use the term photovoltaic, it's a victory for vocabulary too," Leavitt said.

"It is amazing what you can do when people work together with limited resources and a clear logical idea. Thank you to those who had the foresight to do it, and the tenacity to stick with it."

**Joe Alston**, superintendent of Glen Canyon National Recreation Area, expressed the Park Service's gratitude for the cooperative effort, noting the project would not only cut power costs by more than \$2 million over 20 years but also help educate two million visitors to Lake Powell about the



environmental and economic benefits of solar energy.

"The National Park Service is committed to using clean, alternative energy sources and Dangling Rope Marina is an ideal location for demonstrating the benefits of solar technologies," Alston said.

their individual goals, and provided \$1.5 million to design and build a photovoltaic-propane generator system.

### Augering Well in the Desert

We crest the mesa top, walk through the NPS and ARAMARK housing area, continue past a basketball court, follow along a utility corridor that has been cut through the desert shrubs, and arrive at the photovoltaic panel installation.

NPS Foreman **Pete Howard** is operating a specially-equipped backhoe, drilling twelve foot long pipes tipped with auger blades into the soil. Each row of vertical pipes is then connected along the top by a long horizontal pipe. That's all the foundation needed for the panels.

"It's gone in quickly because it's so easy to install," says **Tim Ball** of Applied Power Corporation, which designed and built the photovoltaic system. "That's why we're ahead of schedule. And it's less expensive than a conventional concrete foundation—one of the reasons we won the contract with our low bid," Ball adds.

**Floyd Johnson**, of ARAMARK, nods in agreement, also pleased with the rapid progress. He has been working as construction supervisor for the partnership to ensure compliance with the plans and specifications.

The NPS is thrilled with the auger system, because it produces the least possible disturbance. Excavation is not required. Desert shrubs and cactus may have been damaged during installation, but they will recover.

We walk over to the battery building, which is next to the NPS Maintenance Shop and Generator Building. Our conversations are loud now in order to be heard over the drone of the diesel generator.

"When the system is operational, we won't have the diesel stink at all," Reed shouts above the noise. "The propane generators run so much cleaner and should run less than 20 percent of the time as backup," he explains. We can see the black exhaust from the old diesel generator's muffler.

Jeff Burks notes that the project will result in huge cuts in annual air emissions, ticking off the expected reductions: More than 500 tons of carbon dioxide; 27,000 pounds of nitrous oxides; 2,000 pounds of sulfur dioxide; and 5,000 pounds of carbon monoxide.

### 21st Century Solar Technology

"These are the largest batteries I've ever seen," Burks says, as we examine the 44 cells that will store the power produced by the panels. Each weighs 4,200 pounds and is about as big as a dog house. The entire battery bank is designed to have a 2,400 kWh capacity.

We walk over to the NPS Maintenance Shop where the propane generators are waiting to be installed. Because NPS didn't have as much cash to bring to the table as some of the other partners, we offered as much as we could through in-kind services.

**Vic Knox** explains the active role the NPS employees have had in the project, barging all of the project material—including the generators—to the site, operating all of the heavy equipment, and installing energy-conserving lighting and soft-start units, which reduce surges in electric demand on large motors and compressors. NPS employees also are installing the propane distribution system.

As the group heads back toward the marina along the hot and dusty service road, the sun continues beating down on us and we all want water. But our enthusiasm for the project doesn't dry up.

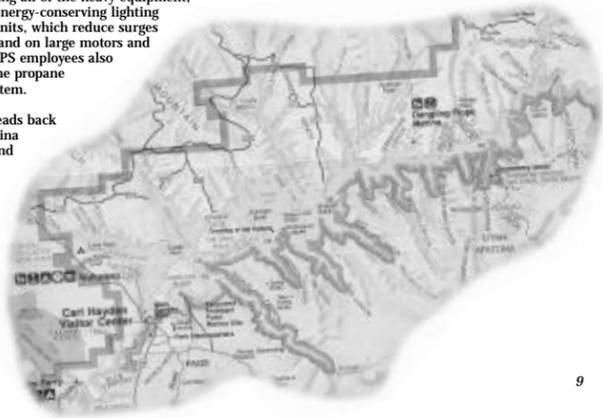
The initiative will allow the NPS to save more than \$2

million over 20 years due to the reduced cost to produce power. It will demonstrate photovoltaic-propane generator system technology and a new generation of large-scale power inverters necessary for remote, stand-alone solar power systems.

And perhaps most importantly, it will protect the environment by using renewable solar energy, eliminating the risk of diesel spills, improving air quality, and reducing noise pollution.

After refreshing ourselves at the marina, we board the boat and slowly cruise out past the bustling activity of the marina. Even on Lake Powell it is still hot and the sun still shines brightly, holding out the promise of a sustainable future that will allow us to protect the environment and conserve our precious resources and dollars.

*Denis Davis served as chief of facilities management and chief of administration at Glen Canyon National Recreation Area. He recently was named superintendent of Cumberland Island National Seashore.*



## Working With the West



n Holt

Interior troops have been engaged in a long, quiet war. But its battle victories are rarely heralded. The strategic goal is to win back wetland and river habitats that were lost to decades of neglect and deterioration. And the most highly effective tactics in restoring these natural resources have been cooperation and partnerships with Western communities.

A typical battle took place at **Muddy Creek**, a tributary of the Sun River near Great Falls, Montana. The stream has been the problem child of the Upper Missouri River Basin for decades. Agricultural development and increased irrigation return flows caused extensive erosion of banks and loss of farmland.

Typically named creek carried 200,000 tons of sediment annually into the Sun River, severely degrading the water quality in both the Sun and Souris Rivers. The stream's steady deterioration led Montana officials to designate Muddy Creek the state's number one source of non-point pollution.

In the early 1980s, the Bureau of Reclamation's Rehabilitation and Betterment Program began working with the Greenfields Irrigation District to make operational changes and modifications in the district's delivery system.



Erosion along Muddy Creek, like that shown above, has cut the bank so severely that it forms a 20-foot vertical wall above the stream bed. Low-profile rock grade control on both sides of the creek, at right in foreground, has improved riparian areas in the Muddy Creek corridor. Photos by R. Wittler



Based on its success, the Task Force has won additional funding to continue the restoration of Muddy

"Muddy Creek is a perfect example of how teamwork can bring positive results and solutions to a major water quality problem," says **Alan Rollo**, Task Force Coordinator for Muddy Creek Project. "It's been a great thrill to be a part of this worthwhile project."

Low profile rock structures were used to control the grade and protect the eroding banks, giving the riparian vegetation a chance to establish. Limiting livestock access revitalized root systems and reduced physical trampling, further resulting in bank stabilization and improved riparian habitat.

Reclamation provided funding and technical assistance, while the Natural Resources Conservation Service worked with farmers, ranchers, and landowners to improve farming and ranching practices in the watershed. The Conservation Service provided surveys, fencing, and grazing recommendations. The District provided the work force and equipment for the project.

In 1992, local interests formed the Muddy Creek Task Force, which called on Reclamation and the Natural Resources Conservation Service to demonstrate the latest river restoration and watershed planning technology in the most severely eroded reach of the stream. The objective was to evaluate a low-cost grade control and bank protection design along a 4-mile stretch.

In a cooperative effort between the water users, the U.S. Natural Resources Conservation Service, and state agencies, changes in farm irrigation methods reduced return flows to the creek by about 20,000 acre-feet annually by the late 1980s.

Creek and the overall Sun River Watershed. The grants came from the Montana Legislature, the U.S. Environmental Protection Agency, and the National Fish and Wildlife Foundation.

### Tactics and Tools

Partnerships like the Muddy River Task Force are one of the most effective tools available to Interior agencies to launch new projects or complete ongoing work despite tight or declining budgets.

Cooperation can produce new expertise, materials, and equipment, unlock public and private agencies' resources, and mobilize a veritable army of workers, from special interest groups and volunteers, to members of the public and Native American Tribes.

To more efficiently and economically accomplish its mission, for example, Reclamation has entered into Memorandums of Understanding and Cooperative Agreements with a myriad of partners over the last decade.

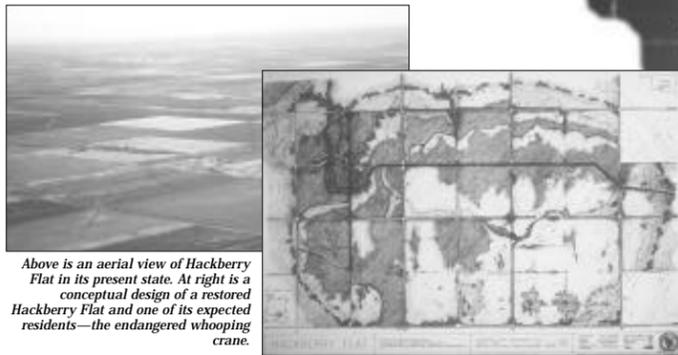
The goals are as varied as the partners: restoring and enhancing wetlands and riparian habitat; posting interpretive signs along wetlands; providing fishing education and opportunities for disabled children; providing nesting habitat for birds; constructing handicapped facilities at state parks; stabilizing lake shorelines; and conducting cultural resource inventories and site evaluations.

And **President Clinton's** new Executive Order on recreational fisheries is serving as a springboard for additional partnerships to increase sport fishing opportunities on public lands—like the one at **Butte Creek** in Northern California.

The creek historically supported viable populations of fall- and spring-run chinook salmon. But the stream also is a major source of water for wetlands on the Upper Butte Basin Wildlife Area, which provides important habitat for migratory waterfowl in the Pacific Flyway. As water was diverted from the Creek for agricultural and wetlands flooding, concerns arose over possible loss of salmon in the process.

Reclamation forged a partnership with U.S. Fish and Wildlife Service, Ducks Unlimited, the M&T Ranch, and Parrott Ranch to help install a fish screen at the diversion point. The California Department of Fish and Game provided most of the funding but Reclamation contributed \$22,000 for site preparation.

## Restoring Waterfowl Habitat



Above is an aerial view of Hackberry Flat in its present state. At right is a conceptual design of a restored Hackberry Flat and one of its expected residents—the endangered whooping crane.

The screen protects the fish while water is diverted for wetland flooding and post-harvest shallow inundation of rice straw for migratory waterbirds. The diversion will no longer damage important anadromous (migrating) fish runs.

### Hackberry Flat and Las Vegas Wash

Another major focus of partnership efforts is restoring waterfowl habitat. In a project in Hackberry Flat, Oklahoma, Reclamation teamed up with **The Williams Companies, Inc.**, in an effort led by the State of Oklahoma to restore a 3,750-acre natural basin.

Prior to its drainage and conversion to farmland, it was the largest isolated wetland in the state and an important stopover for thousands of migrating waterfowl and shorebirds. The partnership includes numerous local, state, and federal agencies, as well as non-government organizations and groups.

The basin is part of a 7,250-acre parcel purchased by Oklahoma's Department of Wildlife Conservation for use in its Hackberry Flat Wetland Restoration Project. Once the area is restored, it is expected to be used by more than 200,000 waterfowl and shorebirds, including the endangered whooping crane.

Reclamation and the Mountain Park Conservancy District will provide 2,352 acre-feet of water per year, and The Williams Companies have agreed to donate 16 miles of steel pipe to deliver water to the basin from the supply source.

"The opportunity to partner with the State of Oklahoma and the Bureau of Reclamation for such a worthwhile project is exciting, and we look forward to doing what we can to make this effort a success," said **Keith Bailey**, Williams chief executive officer.

The donated pipe will be collected from Williams' five natural gas pipe companies—Transcontinental Gas Pipe Line Corporation, Northwest Pipeline Corporation, Kern River Gas Transmission Company, Texas Gas Transmission Corporation, and Williams Natural Gas Company. It will be gathered over the next year and made available to the Oklahoma Department of Wildlife Conservation in the fall of 1997.

Another Reclamation partnership with the National Park Service and the Lake Las Vegas Corporation is restoring a section of wetlands at **Las Vegas Wash** in the Lake Mead National Recreation Area in southern Nevada. Las Vegas Wash flows year-round from the Las Vegas Valley into Lake Mead's Las Vegas Bay.

Treated wastewater effluent and intermittent storm drainage from the Las Vegas Valley are the primary sources of water for the wetlands. Exotic tamarisk (salt cedar) formerly dominated the area and increased flows into the Wash from population growth in southern Nevada caused severe bank erosion. The wildlife habitat was significantly degraded.

Reclamation's Denver Technical Service Center provided design for the project, and the Grand Canyon and Yuma Area Offices are cooperating to complete the construction. To bring a portion of this wetland area back to its original condition, crews have removed the tamarisk from the area by cutting, burning, and use of heavy equipment.

Rock berms are under construction to form two pools of water totaling 7.5 acres of wetlands and riparian habitat. The berms also will reduce the rate of water flow, and therefore, erosion. The Lake Las Vegas Corporation donated 20,000 cubic yards of rock for this portion of the project.

When construction is complete, the National Park Service will take the lead in vegetation management of the area by planting ten acres of native trees and shrubs, including emergent species such as spikerush and sedge and riparian plants like cottonwood and willow.

The wetlands will provide a degree of water treatment to the effluent while also providing enhanced wildlife habitat and visitor recreational experiences. As funding permits, the Park Service also will develop a network of trails, interpretive



At left, a Bureau of Land Management fire crew burns exotic tamarisk (salt cedar) along Las Vegas Wash. Below, is an aerial view of Las Vegas Wash before restoration work began. Lake Las Vegas is in the background.

exhibits, and observation platforms.

When completed, the project will be staffed by NPS employees and volunteers from the local community. It will complement the proposed Clark County Wetlands Park. Together, they will provide opportunities to educate and involve the public through a visitor center and research campus, trails, and interpretive displays along the riparian areas.

These examples are just a few of the many meaningful projects that Reclamation, the National Park Service, the Fish and Wildlife Service, and other Interior bureaus are involved in with a variety of partners throughout the West. As agencies continue to downsize and budgets continue to shrink, partnerships will continue to grow as a viable means of winning the struggle to restore the nation's degraded natural resources.

Restoration wetland and riverside habitat for wildlife is especially critical in the arid West. Though those areas make up less than 10 percent of the land in the region, they are home to 75 percent of the area's wildlife, which depend on them for survival.

Lynn Holt is a public affairs specialist with the Bureau of Reclamation's Denver Service Center.

## Collaborating in Nature's Classroom

# Interior Scouting Promotes Stewardship

by Mona Schermerhorn

A crew of Scouts, exhilarated by the challenging trail and rocky slope, reaches the 12,441-foot peak of New Mexico's Baldy Mountain and sits down to rest, drink some water, and marvel at the vista. Obscured by haze or dust, they can clearly see the horizon.

Phil Harraden, a geologist at the Bureau of Land Management's Albuquerque office, greets the Scouts with simple and fields questions about the geology of the vast landscape stretched before them.

Harraden from New York asks, "What's it all about and what do you guys do?" The geologist explains the concept of public lands (virtually unheard of in the Big East), the Bureau's mission to administer and protect these lands, and his role as a petroleum geologist.

After a day of hiking, the crew heads down the trail to the next station with a better understanding and appreciation not only of the geology of the magnificent Sangre de Cristo Mountains but also of the vital role of the West.

Harraden is one of a number of BLM professionals who volunteer their time and talent to provide thousands of boys and girls from across the country with instruction in geology, mineralogy, and BLMology as part of a cooperative effort with scouting groups in the West.

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### The Big Bang Theory of Scouting

More than 20,000 Scouts from all over the country take the trails at Philmont every summer for their country camps," Carlson explains. "The BLM professionals serve as counterparts to Philmont's



Philmont's instructors dress and act the part of Old West blacksmiths and muckers. From left, Susan Panttaja, geologist, Harding Lawson Associates; Chris Ferguson, Atlanta, Georgia; David Cavins, Moline, Illinois; Marsh Howard, Tahlequah, Oklahoma; Stu Carlson, BLM's National Minerals Outreach Coordinator; Rusty Morris, Downers Grove, Illinois; and Claudia Newbury, a DOE geologist. At right, Gina Ross, a mine engineer with Phelps Dodge Corporation of Morenci, Arizona, encourages Girl Scouts to think about earth science careers. Photos by Mona Schermerhorn



Above at right, Greg Wilkerson, a BLM geologist with the Bakersfield District Office in California, teaches Scouts from Shelbyville, Kentucky, the art of panning at Philmont's French Henry Camp, once a working gold mine. Photo by Mona Schermerhorn

camp directors at each wilderness experience."

Founded in 1938 on 214 square miles of wilderness, Philmont is the largest, high-adventure Boy Scout camp in the nation, known in the scouting world as the BIG BANG. Philmont's leaders, who constantly enhance their programs to keep up with today's enlightened youth, eagerly welcome the collaboration with BLM professionals.

At historic mining sites, Scouts visit abandoned mines and study mining relics. They are taught how gold ore was processed from placer and lode deposits and try their luck at gold panning. Technical skills camps teach rope climbing, map reading, and orienteering. Mountain Men activities give lessons in black powder muzzle loading rifles and hatchet throwing.

In each of the camps, Philmont directors dress in interpretive clothing depicting the time in which the activities were a reality. Cabins are replicas of the era and are equipped with authentic tools used by original wilderness inhabitants.

"The BLM instructors also serve as role models for the Scouts and the directors," Carlson says. "I'm counseling them on careers in earth sciences and federal employment."

"BLM professionals have shown me where I want to go with my career," says Hunter Seim, a Philmont camp director. "I like the caliber of the guys I've met



here with the BLM... what they stand for... their integrity," adds Seim, who chose a career with the Bureau and works in California.

Carlson also launched the project that brought professional women volunteers to Elliott Barker Girl Scout Camp to teach earth sciences and serve as role models, opening the girls' minds to the variety of career options, especially in non-traditional fields.

### Non-Traditional Role Models

Begun in 1993, the program at Barker reaches 700 Girl Scouts each summer. The 536-acre camp, near Angel Fire (30 miles from Philmont), participated in the BLM's geology-paleontology program.

Carlson recruits nation-wide for instructors at federal and state minerals agencies, and the private sector. Retired scientists also join the program. The volunteers at Barker have included a paleontologist, geologists, mine engineers, a geohydrologist, an environmental engineer, and a metallurgist.

Their lessons include the structure of dinosaur bones and the eras in which they lived. While conducting a demonstration for one of these classes, the first geology instructor unearthed a bed of invertebrate fossils from the Paleozoic era on camp property. The fossils are estimated to be 300 million years old.

There also are talks on gold panning, hydrology, minerals used in everyday lives, rock formations, and locations of mineral deposits on the campgrounds.

Each year, several of the camp counselors are recruited from foreign countries, which adds a global perspective to the discussions and develops an awareness of universal environmental concerns.

Carlson's pilot project is now a permanent part of Barker's camping experience and has been "borrowed" by Philmont. Noting the high caliber of women mineralogy instructors volunteering at Barker, Philmont placed women instructors in its backcountry camps and opened its gates to high-school age girls in the Exploring program (for older teenage girls).

The collaboration between the Philmont and the BLM will be featured in a segment of a video magazine piece, called Scout Challenge, that is scheduled to be aired nationally this year on the Outdoor Life Network. For details, call Chris Brock, Irving, Texas, (800) 395-2452.

For more information about the volunteer instructor program, contact Stu Carlson, BLM Utah State Office at Salt Lake City, at (801) 539-4244, or Mona Schermerhorn, BLM New Mexico State Office at Santa Fe, at (505) 438-7515.

Mona Schermerhorn is a mineral leasing specialist for the BLM in Santa Fe, New Mexico.

## Promoting Scouting Nationwide

# Linking Girls To The Land

by Jan Carroll

In an unprecedented move, five federal natural resource agencies have united with the Girl Scouts of the USA and the National Environmental Education and Training Foundation to develop a program encouraging girls to become involved in conservation issues and careers.

Designed to complement each agency's existing conservation partnership with the Girl Scouts, "Linking Girls to the Land" provides a means for adults in Girl Scouting to learn how to implement those partnerships on the local level; where local units of the agencies can be found; and whom to contact for help with conservation programs— badge work, service projects, Silver and Gold Award projects.

Currently, the program consists of 1-1/2-day state-specific training sessions and 3-day national training sessions to get Girl Scout adult volunteers together with agency professionals. At these training sessions, participants explore ways to accomplish their common missions and goals. Several other learning tools are being developed.

These include a pamphlet describing the various Girl Scout proficiencies that have science, conservation, or other out-of-doors themes and how they can fit into agency programs; modules for additional training; a nationwide multi-agency patch program for girls. A video and a new exhibit are expected to be completed in time for the 1999 Girl Scout National Convention to be held in Kansas City, Missouri.

Agencies involved in "Linking Girls to the Land" are the Fish and Wildlife Service, National Park Service, Bureau of Land Management, U.S. Department of

Agriculture Forest Service and USDA's Natural Resource Conservation Service.

For more information, contact Jan Carroll in the Fish and Wildlife Service at (202) 208-5634, Leslie Heffner-Schwager in the Bureau of Land Management at (202) 452-7733, Minerva Woodard in the National Park Service at (202) 343-1429, Bill Boyer in USDA Natural Resources Conservation Service at (202) 720-0307, and Ann Fege, USDA Forest Service, at (619) 674-2901.

## National Boy Scout Jamboree

The Fish and Wildlife Service is once again gearing up for the National Boy Scout Jamboree. This year's theme is Character Counts: Be Prepared for the 21st Century.

Service personnel from all over the country participate in the interagency conservation trail, which features exhibits highlighting conservation practices and career opportunities. They also staff the Service's exhibits, run merit badge booths, and conduct orientation sessions. The staff of Harrison Lake National Fish Hatchery is raising 10,000 catfish for the Jamboree's very popular fishing program.

This is the Service's sixth appearance at the quadrennial jamboree. More than 35,000 Scouts are expected to participate in this year's event, which will be held July 28 through August 5, 1997, at Ft. A.P. Hill near Fredericksburg, Virginia.

## FWS Presents National Scouting Awards



Lund

Hundreds of Fish and Wildlife Service employees nationwide volunteer their time and energy in Scouting. To acknowledge their efforts, seven Service employees, one from each of the Service's regions, recently received the Director's 1995 Special Achievement Award for Scouting.

The recipients are Andrew Yuen, Region 1; Daniel Knous, Region 2; Michael Vanderford, Region 3; Eric Alvarez, Region 4; Steven Atzert, Region 5; Allan Lund, Region 6; and Carol Hale, Region 7.



Hale

The Service's annual national awards program helps promote support for Scouting activities. Under Interior's formal agreements pledging support for Boy Scout and Girl Scout conservation programs, the Service has developed partnerships to implement that support. Service manual chapters spell out the Service's role with both organizations.

For more information on Scouting programs, contact Dan Stiles or Gary Stolz at the National Education and Training Center, (703) 358-1781, or Jan Carroll, Media Services, at (202) 208-5634.



Megan Larkin, a Girl Scout at New Mexico's Camp Elliott Barker, demonstrates one way to become attached to natural resources.

## Interagency Exhibit a Hit at Girl Scout National Convention

Interior agencies presented a multi-agency conservation exhibit at the 47th National Council of Girl Scouts of the USA. Every three years, adult and older girl members of the Girl Scouts gather to set policy for the ensuing three years, elect the national board of directors and officers, and decide on directions for the future in Girl Scouting. This year, the national convention was held in Ft. Worth, Texas.

When the delegates and visitors, several thousand strong, are not participating in council sessions, they can be found strolling through the exhibit hall where agencies and organizations publicize their various Girl Scout partnerships.

The Fish and Wildlife Service has provided an exhibit and staff members at the last three national conventions. This year, however, the Service got together with the Bureau of Land Management, the National Park Service, and the U.S. Department of Agriculture's Forest Service to put together a multi-agency exhibit.

The result was a dynamic presentation of agency conservation partnerships with the Girl Scouts, including street theater; an interactive display; and hand-outs in both English and Spanish explaining the partnerships, background on the agencies, and how to implement the partnerships. One of the most popular offerings was state-specific lists of BLM offices and national forests, parks, and wildlife refuges.

For information about working with Girl Scouts, contact Jan Carroll in FWS Media Services, (202) 208-5634.

## Bald Eagles Attract A Crowd

Montana's Canyon Ferry Bald Eagle Viewing Program is well underway this fall with more than 1,000 bald eagles expected to migrate through the area. Each year, the bald eagles stop at Hauser Lake to feast on the kokanee salmon that die after spawning. This popular program includes a hosted viewing area, school tours and a visitor center with excellent exhibits on bald eagle ecology. Nine local, state, private, and federal cooperating organizations take turns hosting the viewing site on holidays and weekends. The BLM serves as the lead agency under an interagency agreement with the Bureau of Reclamation. Chuck Neal, BLM Park Ranger, and Walt Timmerman, Seasonal Park Ranger, direct the program and, along with over 30 volunteers, enhance the eagle viewing experience for about 13,000 people each fall.